

REMARKS

Claims 3-22 and 31 are pending in the application.

Claims 3-22 and 31 stand rejected.

Claims 3, 19, 21, and 31 have been amended. No new matter has been added. Support for the amendments can be found, at least, within paragraphs [0002] – [0005] of the original Specification.

Examiner Interview

Applicants thank Examiners Michael Pham and Kim Truong for the interview conducted on June 2, 2009, during which amendments for placing the claims in allowable form were discussed. Applicants presented information regarding the claimed invention that clarified the present claims from the disclosure of U.S. Patent No. 7,366,730, issued to Greenfield (“Greenfield”). The Examiners agreed that amending the claims to recite that submitting a constructed multidimensional database query, where the multidimensional data source comprises three or more dimensions would serve to distinguish the present claims from Greenfield. The Examiners further agreed that the present amendments would place the claims in allowable form. Applicants respectfully submit that the amendments to independent claims 3, 19, 21, and 31 are in accord with this agreement and place the claims in condition for allowance.

Specification

Applicants have amended the title of the Application in response to the request by the Examiner for a more descriptive title. Applicants respectfully submit that the amendments to the title overcome the Examiner’s objection.

Rejection of Claims under 35 U.S.C. § 101

The Office Action rejects Claims 3-18 and 31 on the grounds that these claims are purportedly directed to non-statutory subject matter. *See* Office Action, p.3. Applicants have amended independent claims 3 and 31 to overcome this rejection. Applicants respectfully submit that claims 3 and 31, including all dependent claims therefrom, are allowable over 35 U.S.C. § 101..

Rejection of Claims under 35 U.S.C. § 103

Claims 3, 6-10, 14-22, and 31 stand rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Greenfield and further in view of U.S. Patent Application Publication No. 2002/0091681, naming Cras as an inventor (“Cras”). Applicants respectfully traverse this rejection.

As discussed during the interview, Applicants submit that Greenfield fails to teach or contemplate “construct[ing] a multidimensional database query based on the received relational database query.” At best, Greenfield provides a mechanism where relational queries may be used to access data from a relational database, where the data within the relational database happens to have originated from a multidimensional data source. Crucially, Greenfield’s relational query is satisfied with data existing in the relational database. Greenfield’s relational query is not used to construct or submit a multidimensional database query to a multidimensional data source, as claimed.

Cras is not cited for any elements pertaining to the construction or submission of a multidimensional database query based on a received relational database query. Thus, Cras is unable to cure the lack of teaching Greenfield suffers in teaching the “constructing” limitation. Thus, neither Greenfield nor Cras, alone or in any combination, teach or contemplate all the elements of independent claims 3, 19, 21, and 31.

Independent claims 3, 19, 21, and 31, as amended, contain limitations of substantially the following form (among others):

using the relational-to-multidimensional mapping together with
relational/multidimensional equivalency logic to construct a multidimensional
database query based on the received relational database query, wherein
the relational/multidimensional equivalency logic comprises a general mapping
between relational queries and structures and multidimensional queries
and structures;
submitting the constructed multidimensional database query for execution against the
modeled multidimensional data source, wherein
the multidimensional data source comprises three or more dimensions.

See, e.g., Claim 3 (emphasis added). The “construct a multidimensional database query” and “submitting the constructed multidimensional database query” limitations are distinguished from Greenfield because the cited passages of Greenfield pertain to producing a SQL query, which is a relational database query, which has two dimensions. By contrast, the present claims construct

and submit a multidimensional database query to a multidimensional data source that has three or more dimensions.

The Office Action cites the following passage of Greenfield as purported teaching of the “construct[ing] a multidimensional database query based on the received relational database query” limitation:

One supporting method involves the use of SQL views which map a native relational schema model to a schema model that an OLAP API can understand. An OLAP API to a relational database can recognize the views and, hence, the type and form of data returned. Thus, an OLAP API can generate an appropriate SQL statement for querying OLAP objects.

Greenfield 9:10-15 (emphasis added). This passage does not relate to construction of multidimensional database queries. Instead, the cited section explains how an OLAP API can purportedly interface with a relational database. The disclosed queries are SQL queries and the SQL queries operate on a relational database. Thus, the cited section of Greenfield does not teach or contemplate the claimed “construct[ing] a multidimensional database query based on the received relational database query.”

The Office Action also cites Greenfield as purported teaching of “submitting the constructed multidimensional database query for execution against the modeled multidimensional data source.” *See* Office Action, p.7 (citing Greenfield 13:26-28, 13:35-39, and 13:46-48). However, as explained above, the SQL queries discussed in the cited passages of Greenfield are directed to relational databases. This is clear from the last portion of these cited passages: “[h]ence, techniques are described herein for performing operations on multidimensional data managed by a RDBMS.” Greenfield 13:46-48 (emphasis added). The RDBMS manages the data and, consequently, any query to the RDBMS will be a relational query. Greenfield therefore fails to teach or contemplate “submitting the constructed multidimensional database query for execution against the modeled multidimensional data source, wherein the multidimensional data source comprises three or more dimensions” because Greenfield does not submit multidimensional database queries to Greenfield’s RDBMS.

For at least these reasons, Applicants submit that neither Greenfield nor Cras, alone or in any combination, provide disclosure of all the limitations of independent claims 3, 19, 21, and 31, and all claims depending therefrom, and that these claims are in condition for allowance. Applicants therefore respectfully request the Examiner’s reconsideration and withdrawal of the final rejections to these claims and an indication of the allowability of same.

Claims 4-5 and 12-13 stand rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Greenfield, in view of Cras, and further in view of U.S. Patent Application Publication No. 2004/0039736 naming Kilmer as an inventor (“Kilmer”). Claims 4-5 and 12-13 depend on independent claim 3. Applicants respectfully submit that dependent claims 4-5 and 12-13 are in condition for allowance for at least the foregoing reasons set forth with respect to independent Claim 3. Applicants therefore respectfully request the Examiner’s reconsideration and withdrawal of the rejections to these claims and an indication of the allowability of same.

Claim 11 stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Greenfield, in view of Cras, and further in view of “Database Systems: the Complete Book” by Hector Garcia-Molina et al. (“Garcia-Molina”). Claim 11 depends on independent claim 3. Applicants respectfully submit that dependent claim 11 is in condition for allowance for at least the foregoing reasons set forth with respect to independent Claim 3. Applicants therefore respectfully request the Examiner’s reconsideration and withdrawal of the rejections to these claims and an indication of the allowability of same.

Claims 3, 6-10, 14-22, and 31 further stand rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over U.S. Patent No. 5,676,785 issued to Hall (“Hall”) and further in view of Cras.

The Office Action cites Hall as purportedly disclosing the claimed “construct[ing] a multidimensional database query based on the received relational database query” limitation. *See* Office Action p.37 (citing Hall 6:61-66). However, amended Claim 3 provides that the multidimensional data source against which the multidimensional search is submitted comprises three or more dimensions. By contrast, the cited passage of Hall only discusses SQL queries with no mention of multidimensional queries or the construction of multidimensional database queries based on received relational database queries. Thus, Hall is unable to teach or contemplate “construct[ing] a multidimensional database query based on the received relational database query.”

Cras is not cited for any elements pertaining the claimed “construct[ing] a multidimensional database query based on the received relational database query” limitation. Thus, Cras is unable to cure the deficiency that Hall suffers in teaching or contemplating this limitation. Thus, neither Hall nor Cras, alone or in any combination, teach or contemplate all of the elements of claims 3, 6-10, 14-22, and 31.

PATENT

Claims 4-5 and 12-13 stand rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Hall, in view of Cras, and further in view of Kilmer. Claims 4-5 and 12-13 depend on independent claim 3. Applicants respectfully submit that dependent claims 4-5 and 12-13 are in condition for allowance for at least the foregoing reasons set forth with respect to Hall and Cras and independent Claim 3. Applicants therefore respectfully request the Examiner's reconsideration and withdrawal of the rejections to these claims and an indication of the allowability of same.

Claims 11 stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Hall, in view of Crass, and further in view of Garcia-Molina. Claim 11 depends on independent claim 3. Applicants respectfully submit that dependent claim 11 is in condition for allowance for at least the foregoing reasons set forth with respect to Hall and Cras and independent Claim 3. Applicants therefore respectfully request the Examiner's reconsideration and withdrawal of the rejections to these claims and an indication of the allowability of same.

CONCLUSION

Applicants submit that all claims are now in condition for allowance, and an early notice to that effect is earnestly solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is requested to telephone the undersigned.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicants hereby petition for such extensions. Applicants also hereby authorize that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to deposit account 502306.

Respectfully submitted,

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